

U.S./Canada Pacific Salmon Treaty Implementation



Introduction

Adult salmon returning to many western Washington streams migrate through both U.S. and Canadian waters, and are harvested by fishermen from both countries. For decades, there were no restrictions on the interception of returning salmon by fishermen of the neighboring countries. Conservation goals and the right of each country to reap the benefits of its own fisheries enhancement efforts went unfulfilled.

After two decades of talks the 1985 Pacific Salmon Treaty (PST), was created through the cooperative efforts of the tribes, state governments, U.S. and Canadian governments, and sport and commercial fishing interests.

The Pacific Salmon Commission (PSC) was created by the two countries to implement the treaty. The PSC does not directly regulate salmon fisheries; it establishes fishery and allocation regimes, management recommendations and a forum for the countries to reach agreement on mutual fisheries issues.

The PSC is an eight-member bilateral body that includes representatives of federal, state and tribal governments. Three regional pan-

els composed of fisheries representatives and experts provide technical and regulatory advice to the PSC.

As co-managers of the fishery resources, tribal implementation of the PST is critical to achieve the shared goals of protecting, sharing and restoring the salmon resource. In addition to serving at the policy level on the PSC and its panels, tribal representatives also participate on the many committees and work groups which provide technical support to implement the treaty.

Policy and Process

Successful implementation of the PST requires the tribes to develop, whenever possible, a unified position on issues addressed by the PSC. The treaty provides for tribal policy representation at all levels of the PSC structure, and the tribes fully utilize this opportunity, as demonstrated by the participation of their representatives in this process. Another essential aspect of the tribes' role in the treaty's implementation is to ensure that key tribal and Northwest Indian Fisheries Commission (NWIFC) staff are involved in the complete operation of the PSC.

NWIFC staff facilitate inter-tribal and inter-agency meetings, develop issue papers and analysis of strategies and negotiation options, and provide technical advice to the tribes and tribal PSC representatives. An extensive amount of time is devoted to ensure the tribes and their policy representatives are informed on the issues affected by the PST implementation process.

An NWIFC policy analyst coordinates tribal participation in the PST process, preparing briefing reports on key issues and meetings to keep concerned tribes informed. Announcements of all meetings are mailed to the tribes, along with an explanation of all issues affecting tribal fisheries in the PST process. Also included is an explanation of the scope of the meetings, background information required, and a list of decisions to be made. When appropriate, the results of these meetings and the decisions are summarized and provided to the tribes and tribal representatives.

Technical Implementation

In 1996, NWIFC employees continued as chairs of the U.S. sections of the Fraser River Sockeye and Pink, Chum and Chinook technical committees. Staff also served on other committees, including the

Research and Statistical Committee, the Data Sharing Committee, and the Catch Data Exchange Work Group. Working groups for data standards for mark release and recovery databases, mark/recovery statistics, and chum genetic stock identification also included NWIFC staff participation.

Research Projects and Data Gathering

Fisheries research is an integral part of the implementation of the PST. The tribes have designated a substantial portion of their PST funding to conduct the necessary research, data collection and fishery monitoring activities needed to manage salmon fisheries in the context of the PST.

Beginning in FY-90, the scope of the tribal projects was expanded to include enhancement studies. They are designed to explore the feasibility of programs intended to improve the status of stocks and fisheries. These projects involve activities such as production feasibility studies, production evaluation studies, stock enhancement programs, and habitat improvement.

The NWIFC coordinates the tribal research and data gathering activities associated with PST implementation. Since FY-87, tribal project proposals have been solicited and subjected to a technical review and prioritization process. This serves two primary purposes. First, because there are insufficient funds to conduct all de-

sired studies, the tribes need an objective measure of the technical merits of the proposals. Second, the process results in better developed projects that are relevant to the PST. A group of tribal and NWIFC technical staff review the annual proposals and conduct an evaluation/ranking session. This process includes oral presentations for each project followed by a question and answer session.

Proposals are anonymously ranked under a numerical rating system based on a standardized set of questions. These questions address the relevance of the project to the PST, the analytical design and performance standards of the proposal, the benefit and relationship to other fisheries management activities, and the appropriateness of the project's cost.

Results of the ranking are presented to the NWIFC Commissioners for funding decisions. NWIFC staff provide administrative services for the research projects and coordinate information between projects. Staff also supply consulting services on statistical and other technical issues upon request.

Sixteen projects were conducted for in FY-96. These projects can be divided into three categories: Indicator stock tagging studies, stock composition studies, and enhancement evaluation studies. Following is a listing of the projects, the tribe or tribal organization in charge of the project, and a brief description of each project.

Indicator Stock Tagging and Recovery Studies:

Indicator Stock Tagging and Recovery Program (NWIFC)

This longstanding, coastwide PST chinook and coho exploitation indicator stock program evaluates the effectiveness of management measures prescribed by the PSC. The intent of the program is to ensure that each wild or hatchery production stock grouping has a representative hatchery stock that is being coded wire tagged (CWT). Juveniles from each indicator stock are tagged each year, and subsequent recoveries in fisheries allow the PSC chinook and coho technical committees to infer fishery harvest rates, brood exploitation rates, stock harvest rates, and other statistical analysis. Each year, more than one million fish from several tribal hatchery programs throughout the region are tagged for the program.

Skagit River Summer Chinook Indicator Stock Study (Skagit System Cooperative)

This project's objective is to establish and monitor a wild Skagit River chinook CWT indicator stock by capturing and spawning wild broodstock and subsequently rearing, tagging, and releasing a sufficient number of smolts (juvenile fish) to assess and monitor harvest rates and catch levels associated with this stock. The target number of smolts to be tagged each year is 200,000 fish. Spawning surveys to recover tags and estimate escapement of tagged groups is also done.

Stillaguamish River Native Chinook Indicator Stock Study (Stillaguamish Tribe)

The primary purpose of this study is to provide estimates of exploitation rates that can be used to evaluate the effect of rebuilding on the depressed natural stock of summer/fall chinook from the Stillaguamish River. This indicator stock is maintained annually by capturing and spawning wild broodstock, rearing and coded wire tagging and releasing the progeny.

Hoko River Fall Chinook Indicator Stock Study (Makah Tribe)

This indicator stock study provides estimates of exploitation rates that can be used to evaluate the effect of the rebuilding program on natural stocks of fall chinook originating from tributaries to the Strait of Juan de Fuca. Study activities include spawning escapement estimation and recovering returning adults. The goal is to survey all available spawning habitat on the Hoko River on a weekly basis throughout the spawning season.

Queets River Wild Fall Chinook Indicator Stock Study (Quinault Indian Nation)

The main goal of this indicator stock study is to provide exploitation rate estimates that can be used to evaluate the effect of the rebuilding program on natural fall chinook stocks from the Quillayute, Hoh and Queets rivers. The stock is maintained by annually capturing

and spawning wild broodstock, rearing, then coded wire tagging and releasing the progeny.

Queets River Coho Indicator Stock Study (Quinault Indian Nation)

This project's objectives are to evaluate activities to supplement wild coho production and increase natural spawning through coho fry outplants and innovative smolt release strategies.

Stock Composition Studies:

Snohomish River Chinook Straying Evaluation Study (Tulalip Tribes)

This study is designed to determine the level of straying of hatchery origin chinook salmon through the use of unique otolith marks. The research project helps biologists assess the accuracy of natural spawning escapement estimates used to monitor the rebuilding of Snohomish River summer/fall native chinook. Spawning ground surveys are conducted to recover marks and determine marked/unmarked ratios.

North Sound Chum Genetic Stock Identification Study (Nooksack Tribe)

The aim of the project is to collect tissue samples from representative chum salmon migrating through two fishing areas in northern Puget Sound. The samples will be analyzed through electrophoresis to provide information about the stock composition of chum salmon from the sampled areas.

Strait of Juan de Fuca Chum Genetic Stock Identification Study (Makah Tribe)

The specific objectives of this project are to collect tissue samples from representative chum salmon migrating through Washington State salmon management Area 5, and to deliver these samples to state fisheries biologists for analysis. This data will provide information about the stock composition of chum salmon from the sampled area. A final report will be completed that includes study results, an executive summary of the findings, and a summary of all previous years' data.

Quillayute River Chinook Genetic Study (Quileute Tribe)

The objective of the study is to collect and analyze genetic data from Quillayute River spring, summer and fall chinook stocks. The analysis will be used to identify detectable between-population diversity of these chinook stocks, and to examine the gene flow between the wild and hatchery populations.

Enhancement Evaluation Studies:

White River Spring Chinook Migratory Behavior Investigation (Puyallup Tribe)

This study is intended to monitor upstream migration timing, spawning distribution, and holding behavior of adult spring chinook salmon using radio tags and telem

etry equipment. The goal is to radio-tag 100 fish and regularly monitor their locations. The results give fisheries managers a better understanding of adult chinook entrance and lower river clearance timing for harvest management planning.

Stillaguamish Salmonid Barrier Evaluation and Elimination Project (Stillaguamish Tribe and Tulalip Tribes)

The objective of this project is increase the production of native coho salmon in the Stillaguamish River system by identifying and removing fish migration barriers that limit or restrict the use of existing and potentially productive fish habitat. Fisheries personnel will monitor the number of adult coho salmon migrating past a culvert that had been replaced during an earlier phase of this ongoing project. The number of smolts migrating out of the re-opened habitat will also be monitored. Biologists will develop a fish barrier analysis and elimination program for use on the Stillaguamish River and other applicable watersheds.

Evaluation of Natural Stock Improvement Measures for Hood Canal Coho (Point No Point Treaty Council)

The purpose of this program is to develop an analytical approach that assists natural resource managers in planning and implementing effective enhancement actions

to improve coho populations in Hood Canal. The primary tool being developed is a life history computer model that can help fisheries and habitat biologists diagnose production problems and identify actions that could be effective in improving stock status.

Skagit River Chinook Restoration (Skagit System Cooperative)

Biologists working on this project are developing an analytical model to evaluate proposed actions for restoring the Skagit River's wild chinook salmon populations. Life history data is collected for input into the model, including the percentages of juvenile and adult fish that rear primarily in mainstem habitat and in river mouth estuary habitat, the rearing capacity of those areas, and their current seeding levels.

Evaluation of Natural Production of Wild Coho in the Queets River (Quinault Indian Nation)

This project's goal is to bring together fish habitat and fish production data to guide future enhancement actions that would improve production of Queets River wild coho stocks. Objectives include analysis of habitat and coho production data from a dozen years of studies in the Queets River basin, plus maintaining the long-term database on coho production in the Queets, and developing the analytical tools to direct enhancement efforts in the basin.

Wild Coho Smolt Supplementation in the Queets River (Quinault Indian Nation)

The objective of this project is to supplement wild coho salmon production through off-station smolt plants in the Queets River basin. The primary purpose of this project will be to provide adult coho for harvest and natural spawning escapement while maintaining the long-term fitness of the stock. This will be accomplished by capturing and spawning wild coho broodstock from selected areas of the Queets River, rearing about 200,000 coho to yearling smolt stage, marking then releasing the smolts from about seven natural and semi-natural ponds in the upper portion of the basin, then monitor the project to ensure objectives are being achieved.

For More Information

For more information about the natural resource management activities of the treaty Indian tribes in western Washington, contact the Northwest Indian Fisheries Commission, 6730 Martin Way E., Olympia, WA 98515; or call (360) 438-1180. The NWIFC home page is available on the World Wide Web at <http://mako.nwifc.wa.gov>.